

CLAIM SUMMARY DOCUMENT

Claim 1 (Original) An aerosol generator, comprising:

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a laminate body having a fluid passage therein, the fluid passage being located between opposed layers of the laminate body which are bonded together;
a heater arranged to heat liquid in the fluid passage into a gaseous state; and
a fluid supply arranged to provide a fluid to the fluid passage.

Claim 2 (Currently amended) An aerosol generator, comprising:

a laminate body having a fluid passage therein, the fluid passage being located between opposed layers of the laminate body which are bonded together, the laminate body including metal and ceramic layers, inner surfaces of the metal layers being bonded together at first and second locations separated by the fluid passage, the ceramic layers being bonded to outer surfaces of the metal layers, and the fluid passage being a capillary sized passage having a maximum width of 0.01 to 10 mm;

a heater arranged to heat liquid in the fluid passage into a gaseous state; and
a fluid supply arranged to provide a fluid to the fluid passage The aerosol generator of Claim 1, wherein the laminate body includes metal and ceramic layers, inner surfaces of the metal layers being bonded together at the first and second locations separated by the fluid passage, the ceramic layers being bonded to outer surfaces of the metal layers and the fluid passage being a capillary sized passage having a maximum width of 0.01 to 10 mm.

Claim 3 (Original) The aerosol generator of Claim 2, wherein the metal layers comprise copper sheets.

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Claim 4 (Original) The aerosol generator of Claim 2, wherein the heater is located on at least one of the ceramic layers.

Claim 5 (Original) The aerosol generator of Claim 1, wherein the layers are bonded together by an adhesive.

Claim 6 (Original) The aerosol generator of Claim 1, wherein the layers are metallurgically bonded together.

Claim 7 (Original) The aerosol generator of Claim 1, wherein the heater comprises a layer of resistance heating material located along the fluid passage.

Claim 8 (Original) The aerosol generator of Claim 2, wherein the ceramic layers comprise layers of a material selected from the group consisting of alumina, zirconia, silica and mixtures thereof.

Claim 9 (Original) The aerosol generator of Claim 1, wherein the heater comprises a layer of platinum.

Claim 10 (Currently amended) A method of making an the aerosol generator of Claim 1, comprising arranging a mandrel between opposed layers of a laminate, bonding the opposed layers together, and forming a the fluid passage by removing the mandrel, wherein the aerosol generator comprises:

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a laminate body having the fluid passage located between the opposed layers of the laminate which are bonded together;
a heater arranged to heat liquid in the fluid passage into a gaseous state; and
a fluid supply arranged to provide a fluid to the fluid passage.

Claim 11 (Original) The method of Claim 10, wherein the step of arranging the mandrel in the laminate comprises locating the mandrel such that one end of the mandrel is spaced inwardly from a periphery of the laminate and an opposite end of the mandrel is located outwardly of a periphery of the laminate.

Claim 12 (Original) The method of Claim 10, further comprising forming the heater on the laminate, the heater being sputtered, printed, adhesively bonded or coated on a layer of the laminate.

Claim 13 (Original) The method of Claim 10, wherein the fluid passage is formed so as to extend in a linear or non-linear direction, the fluid passage being a capillary sized passage having a maximum width of 0.01 to 10 mm or transverse area of 8×10^{-5} to 80 mm².

Claim 14 (Original) The method of Claim 10, further comprising forming the heater on the laminate and attaching contacts which pass an electrical current through the heater.

Claim 15 (Original) The method of Claim 10, further comprising connecting the fluid passage to a source of fluid which can optionally comprise a medicated material.

Claim 16 (Original) The method of Claim 10, further comprising attaching a power supply to the heater for heating the heater.

Claim 17 (Original) A method for generating an aerosol with the aerosol generator according to Claim 1, comprising the steps of:

- (a) supplying fluid to a fluid passage;
- (b) heating the heater so as to volatilize the fluid in the fluid passage; and
- (c) forming an aerosol by ejecting the volatilized fluid out of an outlet of the fluid passage.

Claim 18 (Currently Amended) The method of Claim 17, wherein the heater heats the fluid in the fluid passage by thermal conduction through at least one layer of the layers of the laminate.

Claim 19 (Original) The method of Claim 17, wherein the volatilized fluid is ejected through an outlet at one side of the laminate.

Claim 20 (Original) The method of Claim 17, wherein a predetermined volume of fluid is supplied to the fluid passage and the predetermined volume of fluid is volatilized by the heater, the fluid passage being a capillary sized passage having a maximum width of 0.01 to 10 mm or transverse area of 8×10^{-5} to 80 mm^2 .

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Claim 21 (New) The aerosol generator of Claim 1, further comprising at least one of a valve and a pump arranged to control flow of the fluid from the fluid supply to the fluid passage.

Claim 22 (New) The aerosol generator of Claim 1, wherein the fluid supply comprises a chamber, the aerosol generator further comprising a piston operable to compress fluid in the chamber to supply the fluid from the fluid supply to the fluid passage.

Claim 23 (New) The aerosol generator of Claim 1, wherein the fluid is stored in a disposable chamber.

Claim 24 (New) The aerosol generator of Claim 1, wherein the laminate comprises opposed ceramic layers.

Claim 25 (New) The aerosol generator of Claim 1, wherein the heater has a width which is less than a width of the laminate.

Claim 26 (New) The aerosol generator of Claim 1, wherein the opposed layers are bonded together at locations separated by the fluid passage.

Claim 27 (New) The aerosol generator of Claim 1, further comprising at least one additional layer disposed between the opposed layers, the at least one additional layer defining the fluid passage.

Claim 28 (New) An aerosol generator, comprising:

a laminate body having a fluid passage therein, the fluid passage being located between opposed layers of the laminate body which are bonded together; and
a heater arranged to heat liquid in the fluid passage into a gaseous state.

Claim 29 (New) The aerosol generator of Claim 28, further comprising a fluid supply arranged to provide a fluid to the fluid passage.

Claim 30 (New) The aerosol generator of Claim 29, wherein the fluid supply comprises a refillable storage chamber.

Claim 31 (New) The aerosol generator of Claim 29, wherein the fluid supply comprises a disposable storage chamber.

Claim 32 (New) An aerosol generator, comprising:

a laminate having a fluid passage therein located between opposed layers of the laminate which are bonded together, the fluid passage having a width which is less than a width of the opposed layers;

Q3 a heater arranged to heat liquid in the fluid passage into a gaseous state; and

a fluid supply arranged to provide a fluid to the fluid passage.

Claim 33 (New) The aerosol generator of Claim 32, further comprising at least one of a valve and a pump arranged to control flow of the fluid from the fluid supply to the fluid passage.

Claim 34 (New) The aerosol generator of Claim 32, wherein the fluid supply comprises a chamber, the aerosol generator further comprising a piston operable to compress fluid in the chamber to supply the fluid from the fluid supply to the fluid passage.

Claim 35 (New) The aerosol generator of Claim 32, wherein the fluid is stored in a disposable chamber.

Claim 36 (New) The aerosol generator of Claim 32, wherein the opposed layers are ceramic layers.

Claim 37 (New) The aerosol generator of Claim 32, wherein the heater has a width which is less than the width of the opposed layers.

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Claim 38 (New) The aerosol generator of Claim 32, wherein the opposed layers include inner surfaces bonded together at locations separated by the fluid passage.

Claim 39 (New) An aerosol generator, comprising:

a laminate having a fluid passage therein located between opposed layers of the laminate which are bonded together, the opposed layers having bonded surfaces which are closer together than are surfaces of the opposed layers defining the fluid passage;
a heater arranged to heat liquid in the fluid passage into a gaseous state; and
a fluid supply arranged to provide a fluid to the fluid passage.

Claim 40 (New) The aerosol generator of Claim 39, further comprising at least one of a valve and a pump arranged to control flow of the fluid from the fluid supply to the fluid passage.

Claim 41 (New) The aerosol generator of Claim 39, wherein the fluid supply comprises a chamber, the aerosol generator further comprising a piston operable to compress fluid in the chamber to supply the fluid from the fluid supply to the fluid passage.

Claim 42 (New) The aerosol generator of Claim 39, wherein the fluid is stored in a disposable chamber.

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Claim 43 (New) The aerosol generator of Claim 39, wherein the opposed layers of the laminate are ceramic layers.

Claim 44 (New) The aerosol generator of Claim 39, wherein the heater has a width which is less than a width of the opposed layers.

Claim 45 (New) The aerosol generator of Claim 39, wherein the bonded surfaces are bonded together at locations separated by the fluid passage.

Claim 46 (New) An aerosol generator, comprising:

a laminate having a fluid passage therein located between opposed layers of the laminate which are bonded together, the opposed layers including opposed depressed surfaces defining the fluid passage therebetween;

a heater arranged to heat liquid in the fluid passage into a gaseous state; and

a fluid supply arranged to provide a fluid to the fluid passage.

Claim 47 (New) A method of making aerosol generator, comprising:

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forming a laminate body having a fluid passage therein by bonding together opposed layers, the fluid passage being located between the opposed layers; and
arranging a heater to heat liquid in the fluid passage into a gaseous state.

Claim 48 (New) A method of making an aerosol generator, comprising:

arranging a mandrel between opposed layers of a laminate;
bonding the opposed layers together; and
forming a fluid passage between the opposed layers by removing the mandrel.
